BUILDING EVALUATION

OF

213 BROADWAY STREET and 516 RIGSBEE AVENUE DURHAM, NORTH CAROLINA

FOR THE CITY OF DURHAM POLICE DEPARTMENT July 17, 2002



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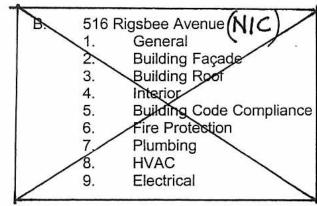
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I. Scope of Services

On June 12, 2002 a team of Stantec architects and engineers visited the following buildings to perform a existing building evaluation as part of our contractual agreement with the City of Durham to provide programming and schematic design:

- 213 Broadway Street Building
- 516 Rigsbee Avenue Building

The purpose of the building evaluation is to provide the City of Durham a survey of the existing conditions and to a list items that should be considered prior to renovating these buildings to house the Durham Police Department Criminal Investigations Division (Forensic Services Unit), Special Operations Division and the Central District Patrol Services Bureau.

Conclusions will be based on the Forensics Services Unit sharing occupancy with the Special Operations Division at the Broadway Street Building or sharing occupancy with the Central District Patrol Services Bureau at the Rigsbee Avenue Building.

II. Site Issues

A. General Overview:

The site is located in Durham, North Carolina at the southeast quadrant of the intersection of Rigsbee Avenue and Broadway Street and consists of three tax parcels. The lot at the southeast corner of Rigsbee and Broadway is identified as Parcel Number (PIN) 0821-08-99-6192. The address is 516 Rigsbee Avenue and the lot contains 0.70 acres. The second parcel is just east of the corner lot and is identified as PIN 0821-08-99-8105. This is a vacant lot containing 0.25 acres and is currently used for parking. The third and largest parcel is the easternmost parcel located at 213 Broadway Street and is identified as PIN 0831-05-09-0048. According to information in the Durham database, this parcel contains 0.53 acres. However, based on the GIS mapping and dimensions shown. the parcel at 213 Broadway contains approximately 1.2 acres. This third parcel is occupied by a building measuring approximately 151 feet by 100 feet with a partial basement. This will be referred to as the 213 Broadway building throughout this site evaluation. All of the properties involved are zoned Commercial Trade (CT) and are owned by the City of Durham.

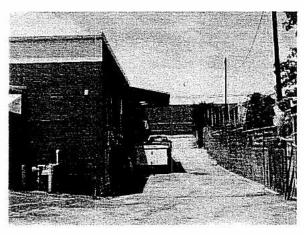
The site review is limited to observed conditions only, no calculations have been made as far as water flows, sewage capacity, lighting coverage or storm water flows.

B. Site Access:

A total of five pad lockers gated vehicle access points serve the subject properties. Automatic gates should be considered at all entrances. The parking area off Rigsbee Avenue has its main access off Rigsbee Avenue and also has a drive onto Broadway at the alley east of the building.



Rigsbee Street Access

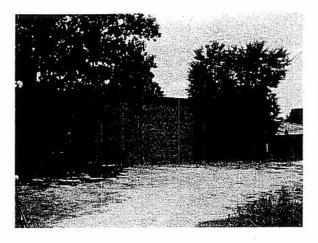


Alley Drive to Broadway Street

The parking area on the vacant lot between the two buildings off Broadway Street has one drive access. The easternmost entrance off Broadway Street serves the building at 213 Broadway and accesses the site at the loading dock area on the east end of the building. This area also has gated access via Hunt Street to the south at the southeastern corner of the site.

C. Parking and Vehicle Storage:

Three non-connecting parking areas serve the property. The entrances to each of these parking areas are gated. The existing concrete parking lot off Rigsbee Avenue to the south of the Rigsbee Avenue building is in good condition and is currently striped for 22 parking spaces.



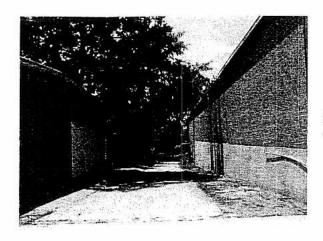
Owner should consider paving lot and providing access directly to the Broadway Street and Rigsbee Avenue Buildings.

An unpaved and unmarked area on the vacant parcel between the two buildings involved in this project has area for approximately 20 to 26 parking spaces.



Northeast view of Hunt Street entrance beyond covered shelter, loading dock and eastern parking lot. The preengineered storage building can be seen to the right of the covered shelter.

The eastern most lot at the loading dock on the 213 Broadway building contains approximately 16 parking spaces. The paved area east of the covered shelter would permit approximately 15 parking spaces. The existing asphalt in this area is generally in poor condition. All of the existing parking is configured for straight pull in parking. The existing covered shelter at the southeast part of the site could be enclosed or screened and used for storage of vehicles. This area could house two rows of vehicle storage measuring approximately 90 feet in length.



East view of the alley with the preengineered storage building on the left.

The alley behind (south) the 213 Broadway building could be used for vehicle storage. This alley runs 151 feet or the length of the building. Limited street parking is available along Broadway Street. Street parking is not available along Rigsbee Avenue. The existing on-site lots would accommodate 70 to 80 standard parking spaces. Handicap parking spaces may be required for site plan approval. The number of required parking spaces has not been determined. For Government buildings, the Durham City-County Zoning Ordinance states that the minimum number of required off-street parking spaces is "based on review by the DRB considering site size, topography and supporting facilities." The exact number of required spaces requires further evaluation of the proposed improvements and coordination with City of Durham planning staff.

D. Utilities:

Information on the existing water and sewer mains was obtained from the City of Durham. Water service for the Broadway Street building is off an existing 6" main in Broadway Street. An existing meter is contained within a meter box in the street sidewalk near the building entrance on Broadway Street. The sewer and water services enter the building from the north. See the building plumbing evaluation for the size of the building service. There did not appear to be a backflow preventer at the valve in the basement of the main building. This may be required for the proposed improvements. The 213 Broadway building has a fire sprinkler system. In addition to the meter near the entrance for the 213 Broadway building, there is a water meter near the street at the northwest corner of the main building. It is not clear that this is an active meter. This building also had a fire department connection, a sprinkler alarm, and post indicator valve near the building entrance. None of these were noted for the lower building. A water meter was observed along Broadway serving the building at the corner. There is an existing 6" water main in Rigsbee Avenue. Fire hydrants are located at the southeast quadrant of the intersection of Rigsbee Avenue and Broadway Street and on the north side of Broadway Street between Rigsbee and North Street. There are sanitary sewer mains in Rigsbee Avenue and Broadway Street. Sanitary sewer from the Broadway Street building connects to the existing main in

Broadway Street. A cleanout was observed at the sidewalk near the northwest corner of the 213 Broadway building. Sanitary sewer from the Rigsbee Avenue building connects to the existing main in Rigsbee Avenue according to one of the City of Durham employees present during the site evaluation. No cleanout was found that would confirm the location of the sewer service from the Rigsbee Avenue building. Both buildings are served by overhead electric and telephone. Both buildings are served by gas. The gas meter for the Broadway Street building is located at the northwest corner of the building. The gas meter of the Rigsbee Street building is located at the southeast corner of the building. Size of service was not determined.

E. Drainage:

The site appears to provide adequate drainage without impacting adjoining parcels. Existing roof drains, drop inlets, and storm piping may require cleaning. The existing inlet at the southwest corner of the 213 Broadway building was mostly covered. The parking off Rigsbee Avenue contains two grated drop inlets. The pipe sizes could not be determined nor could determination be made as to the point of connection to the street drainage system. The parking area between the two buildings contained no drainage structures and is relatively flat. The area east of the 213 Broadway building drains to Hunt Street via a swale in the existing pavement. The area slopes away from the eastern property line and away from the loading dock at the east end of the Broadway Street Building. Roof drains were observed on the backside of the Broadway Street building and empty into the alley. Storm runoff behind this building is collected in an existing grated inlet at the southwest corner of the building. The size and direction of the pipe leaving this inlet were not determined. There were no signs of standing water. However, the area had not received rain recently. Runoff calculations were not performed as part of this evaluation.

F. Landscaping:

Neither the quantity nor quality of the existing landscaping has been evaluated. General cleaning and trimming of existing trees and shrubs may be in order. Site plan approval could require additional landscaping to comply with City of Durham requirements for site landscaping.

G. Lighting:

The site was observed during daylight hours, so the actual lighting characteristics were not observed. The parking lot between the two buildings contains two poles with area lights. The easternmost parking lot contained one light on a utility pole. Streetlights were observed along both streets.

H. Fencing:

The side and rear yards of both buildings are enclosed with chain link fencing. The top of the fencing is either barbed wire or newer razor wire. Upgrades may be necessary for some of the fencing to provide a higher level of security.

Trash Collection:

There were no dumpsters on the site. Rollout containers were observed at the northeast corner of the 213 Broadway Street building. The method of trash collection was not noted for the Rigsbee Avenue building.

III. Evaluation of the Buildings

A. 213 Broadway Street:

General:

The building was built in approximately 1973. The gross building area is approximately 19,736 square feet and consists of a First Floor and a Basement with on grade access. The First Floor is approximately 15,083 SF and the Basement is approximately 4,653 SF gross area.

2. Building Facade:



Main entrance at north façade.

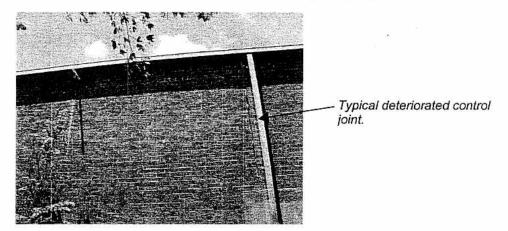
The façade features a 2'-0" deep metal fascia panel band with utility brick masonry walls. Open head joints located near the base of wall allow water to pass out of the wall. The metal fascia panels appear to be in fair condition; however, caulked joints between panels have deteriorated and have possibly allowed water to pass into the existing wall. The panels should be re-caulked. It was observed that the existing metal fascia has bowed out from the exterior wall, which must be repaired. Evidence that water is entering the wall can be seen along the north-facing facade

where, existing lintels over windows have rust on surfaces and where deteriorated mortar joints can be seen along the base of the wall.

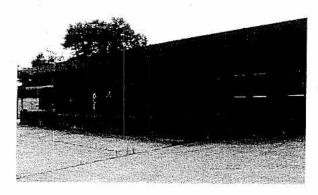
All existing windows appear to have been recently replaced with aluminum frame, 1" insulated glass fixed units except for the storefront window system at the main entrance which appears to be original to the building. No weeps were observed over existing windows and existing storefront window system. The existing storefront system consists of an aluminum frame with fixed ½" glass units. The existing storefront system appears to be in overall fair condition; however, it is recommended that replacement should be considered for the following reasons:

- Flashing and weeps should be installed.
- All perimeter joints should be re-caulked.
- The existing system is not energy efficient due to the lack of thermally broken frames and the lack of insulated glass.
- Gaskets holding existing glass into frames should be replaced.

It should be determined whether these cost justify replacement.



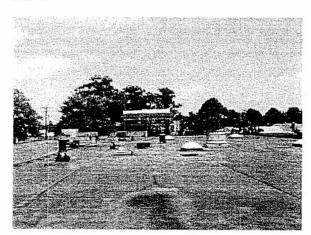
The exterior walls are approximately 1'-0" thick and appear to consist of a double wythe utility brick. It is not clear if the existing wall is insulated or was designed with flashing and weeps holes. Control joints were observed along the west and south sides of the building; however, none were observed along the north and east façade. All control joints have deteriorated caulking that must be replaced.



Northeast view of loading dock.

There is a covered loading dock located along the full length of the east side of the building. The structure consist metal decking over a network of exposed wide flange beams and bar joist supported by 4" diameter steel column and the exterior masonry wall. Rust was observed on all members, which should be removed and painted. An area where the existing metal roof deck has corroded away was observed, which must be repaired. Chicken wire has been hung from the underside of structure in order to prevent birds from nesting which will need to be replaced in order to gain access to the structure to apply a rust preventative and paint. The exterior metal fascia also has evidence of rust along the underside of the panels and some areas are bent, which need repair. There is access to a bathroom directly from the loading dock with one lavatory and one water closet. The loading dock and adjacent bathrooms are not required to meet Owner's programming needs. Owner may consider enclosing space in the future to be used as office or storage space. The loading dock has two uninsulated overhead doors which should be replaced with insulated units or openings be closed if adjacent interior space is to be conditioned.

Roof:



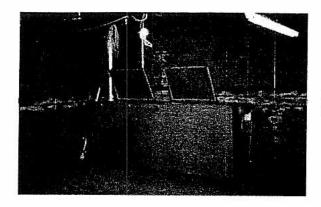
Stained spots represent areas of ponding water.

The existing roof consists of a single membrane mechanically attached Carlisle roof over tapered insulation. The roof is penetrated by 6 skylights, HVAC ducts, plumbing vents and gas piping. The overall condition of the roof is good; however, areas of ponding water were observed and areas where the insulation is compressed and loose were observed. It is recommended that testing should be done to identify the cause of these problems; however, no areas of leaks in the interior were observed. Based on Carlisle's records, the building was re-roofed in 1999 by Hamilin Roofing Company for the previous building owner. A warranty for the roof currently exists; however, has not been transferred to the City of Durham. Transfer of the warranty would require a Carlisle technical representative to conduct an inspection for a fee and will require a transfer fee. Any nonwarranty repair found would need to be repaired by an authorized Carlisle applicator. The perimeter of the roof is terminated by a metal gravel stop. The roof is sloped toward the south side of the building where a continuous aluminum gutter leads runoff to three downspouts. All downspouts discharge on grade except for the downspout located at the southeast corner of the building adjacent to the loading dock. This downspout discharges into what seems to be a storm drain. The gutter and downspout system appears to be adequate. The roof has no exterior ladder or interior roof scuttle access, which should be considered. Also, the roof does not have walk pads as recommended by the roof manufacturer leading from the roof access point to all HVAC equipment requiring service.

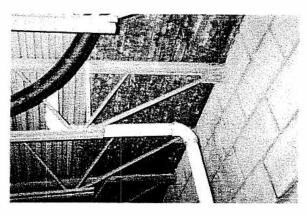
Interior:

The west end of the building is currently occupied by Criminal Investigations Division and the remaining of the building is vacant. The building consists of an entry vestibule, a lobby, a telecom room, private offices/workrooms, kitchen/breakrooms, a conference room, bathrooms and open and walled storage areas. The first floor and basement is connected via a ramp on the west side of the building.

The building structure consists of a partial basement with a concrete slab, bearing concrete masonry walls supporting a network of steel beams and bar joist supporting the first floor composite metal deck/concrete slab assembly. The first floor consists of concrete slab ungrade and structural slab assembly over the Basement as previously noted. The roof consists of a membrane roof, tapered insulation, as noted above, a metal deck supported by a network of beams and bar joists supported by steel columns. The overall condition of the structure appears to be good; however, the North, East and West below grade walls have moisture problems.



Efflorescence observed on basement walls.



Corroded decking observed at underside of first floor that must be repaired.

Efflorescence was observed along these walls and along the north wall where the floor decking has corroded. It can not be determined if the building foundation walls are waterproofed or if they an underground drainage system. Further investigations are required in order to determine the exact cause of water infiltration.

The interior walls consist of non load bearing concrete masonry walls and wood stud framing. The concrete walls are painted and the wood stud walls are typically covered on one side with one layer on painted particleboard on the hall/corridor side and one layer of painted drywall on the room side. The overall condition of the walls are good; however, if major renovations are contemplated, all wood stud walls may need to be removed since they are combustible material which are not allowed for this building type.

5. Building Code Compliance:

General Use:

The building is not located within the downtown historic district; and appears not to be within downtown fire district.

Building Use:

The current building occupancy is Business and does not need to change based on the Owner's intended building use plan.

Construction Type:

The Building Type appears to be Type V-B.

Allowable Area:

The allowable area is 9,000 SF per floor. The total number of allowable floors is two. The code permits the allowable area to be increased by 200%, if the building is protected throughout with an approved automatic sprinkler system. The increase would allow 18,000 SF per floor, which is needed for the building to conform with the building code. See the fire protection evaluation section of this report for recommended work.

All code compliance statements are based on the building being completely sprinkled.

Egress:

The First Floor has two means of egress and Basement only one. The allowable exit access travel distance is 300'-0", which should not be a problem. No fire rated exit access corridors exist and none are required. The access to two independent exits is required for the west end of the building first floor. The total number of building occupants on the first floor is 150. The Basement has only one means of egress and has a total of 48 occupants, if the space is classified as business occupancy. The ramp connecting the Basement and the First Floor exceeds the required 8% slope in order for it to be used for egress. The Basement needs two means of egress. If the Basement is treated as a storage occupancy, only one exit is required; however, floor to floor fire separations maybe required.

ADA:

There are no handicap-accessible entrances to this building, which must be addressed in the work scope of the project. Although, the basement has a grade access, the existing threshold should be replaced with a H.C. accessible type threshold. The entrances on the First Floor all discharge by means of stairs. A handicapped accessible entrance must be considered in the scope of work along with the appropriate directional signage. The majority of the existing interior doors are hollow core wood doors and the hardware on these doors are residential

grade without HC accessible levers. Doors and hardware should be replaced with commercial grade doors and HC accessible hardware.

An elevator is required and must be considered.

Bathrooms:

The building currently has four bathrooms. The fixture count is as follows:

- 1 Men's Bathroom:
- 2 water closets
- 1 lavatories
- 1 urinal
- 1 Women's Bathroom:
- 2 water closets
- 2 lavatories
- 1 Unisex Bathroom located in Lunch Room:
- 1 water closets
- 1 lavatories
- 1 Unisex Bathroom located off of the loading dock:
- 1 water closets
- 1 lavatories

Only one drinking fountain was observed. None of the existing bathrooms are handicapped accessible.

The minimum plumbing fixtures that are required:

Men's:

- 4 water closets
- 3 lavatories

Urinals can be substituted for up to 67% of the required number of water closets.

Women's:

- 5 water closets
- 3 lavatories
- 2 drinking fountains are required.

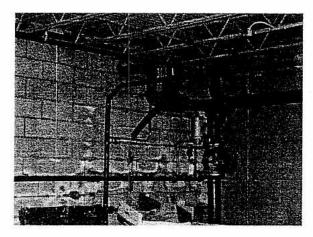
The ratio for the number of plumbing fixtures is 60% female to 40% male. The plumbing code official may allow adjustments to the female to male percentage ratio when satisfactory data is

presented to substantiate a claim that the ratio does not represent the actual ratio of males to females.

Bathrooms will need to be designed to meet Owner's space requirements.

Fire Protection:

The entire building is protected by a wet, pipe-schedule fire sprinkler system. The system does not have main backflow flow prevention at this time.



Six inch riser consist of a gate valve, alarm check valve with retard chamber and fire department connection.

In the basement and the warehouse area, sprinkler heads are located at the roof deck. The exterior loading dock is protected with an anti-freeze system fed from the wet pipe system. Most areas have an existing suspended ceiling with pendent type sprinklers installed; however, there are some rooms without sprinkler heads projected into the space.

Water supply and underground piping to the fire sprinkler system appears adequate. It consists of a six-inch fire line connected to a six-inch looped main in Broadway Street. There is also a locked post-indicating valve installed on this line.

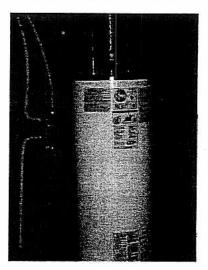
It is expected that the existing fire sprinkler system will require major modification. A six-inch backflow preventer will need to be installed at the riser. Because the existing system is an older pipe scheduled system using schedule 40 screwed pipe with ¾" pipe at the end of the branchlines, most if not all of the pipe and heads will need to be removed and replaced with a new hydraulically calculated system. The new piping will be designed for the new interior space layout.

7. Plumbing:

The plumbing system consists of 2 main bathrooms, 2 small bathrooms, a kitchen, and a break room. Water enters in the basement area through a 2" copper line. There is no backflow preventor on this line, which is required. The sanitary sewer main drain was not located at this time and will probably require some electronic underground utility locating work to determine its location. It is assumed to be a 4" line that leaves the building somewhere around the main entrance.

See the bathroom section listed under Building Code Compliance for existing bathrooms and fixture counts. Each main bathroom has a floor drain and a hose bib within the room. The water closets are flush valve type.

The kitchen plumbing consists of only a 2-compartment sink. The break room also has a sink.



This appears to be a 40-gallon residential type water heater.

A single gas fired hot water heater is located near the existing boiler. The water heater seems in good condition, but may not be adequate for the building.

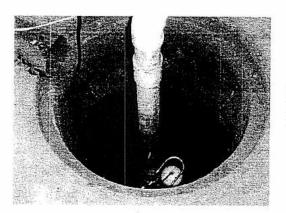
The plumbing fixtures are all rather old and probably will be replaced in the new work. ADA accessibility is addressed elsewhere, and if it becomes necessary to modify the toilet rooms, all fixtures would certainly be replaced.

Modification of any existing under slab drain piping would be limited to that required for new layouts or fixtures. This assumes the main pipe size is sufficient. There are 6 plumbing vents observed on the roof. All of these could not be identified from the current building use and layout. Some vent piping modification is expected, but not to a major extent.

Existing water pipe sizes need to be further assessed, but may be adequate. The existing water pipes are not insulated, so at least pipe insulation is expected to be required. Also, there is no hot water recirculation line, which should be considered at the time of renovation.

The 2½"gas line enters into the basement area and runs through the building and across the roof. It serves the boiler, hot water heater, and various gas-heating units.

There is a sump pump in the basement.



Existing sump collects ground water from a 4" line entering the pit from under the main building and the discharge pipe goes up and through the exterior building wall.

The pump probably needs to stay with an enclosure/protection designed.

There is an existing 4" sanitary sewer line that leaves the building in the basement with a 2" drain from the break room connected to it. There is no other drains served by this line, nor is there a vent associated with this area on the roof.

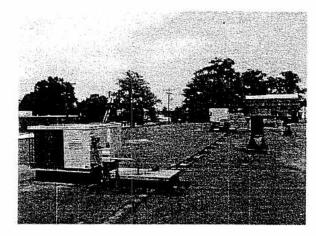
There is an existing shoot tank in the basement that does not currently have a permanent water or drain hook up, but probably should have. There is a vent from this tank to the outside.

HVAC:

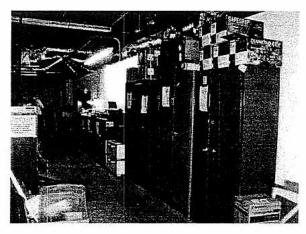
The majority of the building is served by a combination of split system units and rooftop mounted packaged HVAC unit. About 25% of the building is not air-conditioned, but is heated. The basement area is heated only.

The 3-rooftop units have gas heat and are all 5 years old or less. The condensing units on the roof for the 3 split systems are also 5 years old. Gas heat is provided in each of the units. All 6 systems are ducted to the areas served. The units and inside ductwork

appear in good condition and reuse is recommended to the extent possible.

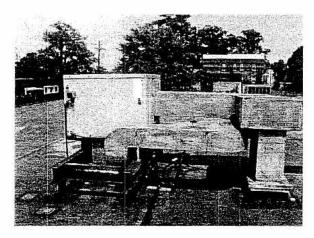


HVAC condensing unit.



Kinks and bends restrict the air flow should be eliminated. This increases pressure drop which increases energy use.

The length of flex duct is overextended, which should be corrected.



On one rooftop unit the layout of exposed ducts looses a lot of system static pressure, which should be corrected.

There is a 594 MBH (output) gas fired hot water boiler that heats about 25% of the building and the lower level. The terminal units are either horizontal unit heaters or ceiling mounted cabinet

heaters. The boiler is about 40 years old. The hot water distribution piping system is not insulated. Due to the age and limited use of the boiler system, it is recommended that this be demolished and not replaced.

The unconditioned parts of the building and the basement will need new units for air-conditioning, and with elimination of the boiler should also provide the heating. Additionally, the current air conditioning serves about 500 square feet per ton, which seems to indicate more air-conditioning is likely required for comfort conditions.

The multiple smaller units that exist provide good zoning and should be used in the new design as new units are added. Either split systems or packaged rooftop units are expected to be selected depending on locations and associated installation challenges. For gas-fired units, packaged rooftop units are probably preferred.

Other systems include local exhaust fans for the toilet rooms and kitchen. One unit seemed fairly new, but no manufacturer date could be determined. The others are older and replacement is assumed.

Most existing thermostats are single stage residential type and those need to be replaced by programmable units meeting NC Energy Code.

Ventilation issues must be addressed in the new design. The existing HVAC system has inadequate means to provide the amount of fresh air requited by the current code.

9. Electrical:

Power is supplied to the Broadway Street Building via an overhead service lateral from a 208Y/120-volt transformer bank. The service entrance point consist of a 225-ampere panel and several disconnects for large equipment.

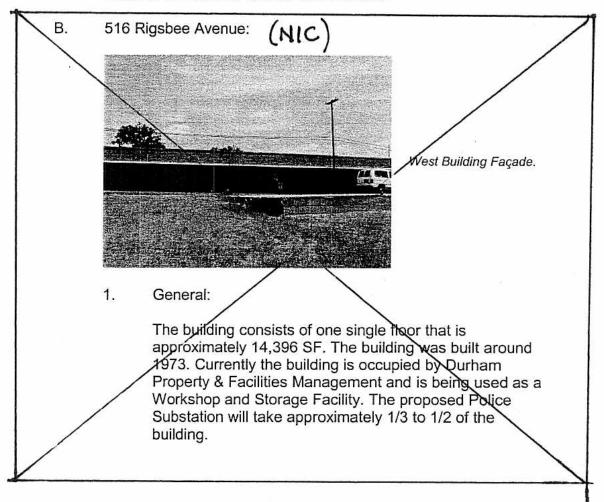
A new service should be installed to the building. The service transformers will probably be large enough to serve the renovated space, but the overhead lateral should be installed underground in conduit. The new service will be approximately 400 amperes. This panel could serve HVAC and lighting loads and a sub-panel for receptacles.

Most of the building lighting consists of 2 x 4 fluorescent troffers, which appear to be in good shape and can be cleaned and reused. The lighting in the basement and warehouse area is

inadequate and will need to be replaced. All exit and emergency lighting will be replaced to meet the requirements of the Life Safety Code.

The existing telephone and data equipment is in good condition and will remain and be reused. Receptacles, telephone, and data outlets will be replaced or reused as required during the renovation.

The Owner should consider installing an addressable fire detection system in the space. Smoke detectors should be installed in corridors and storage spaces, pullstations would be installed at all points of egress, and the sprinkler systems will have to be monitored. ADA compliant horn/strobes will have to be installed to meet the various State Codes.



New service panels will serve HVAC and lighting loads and a sub-panel for receptacles.

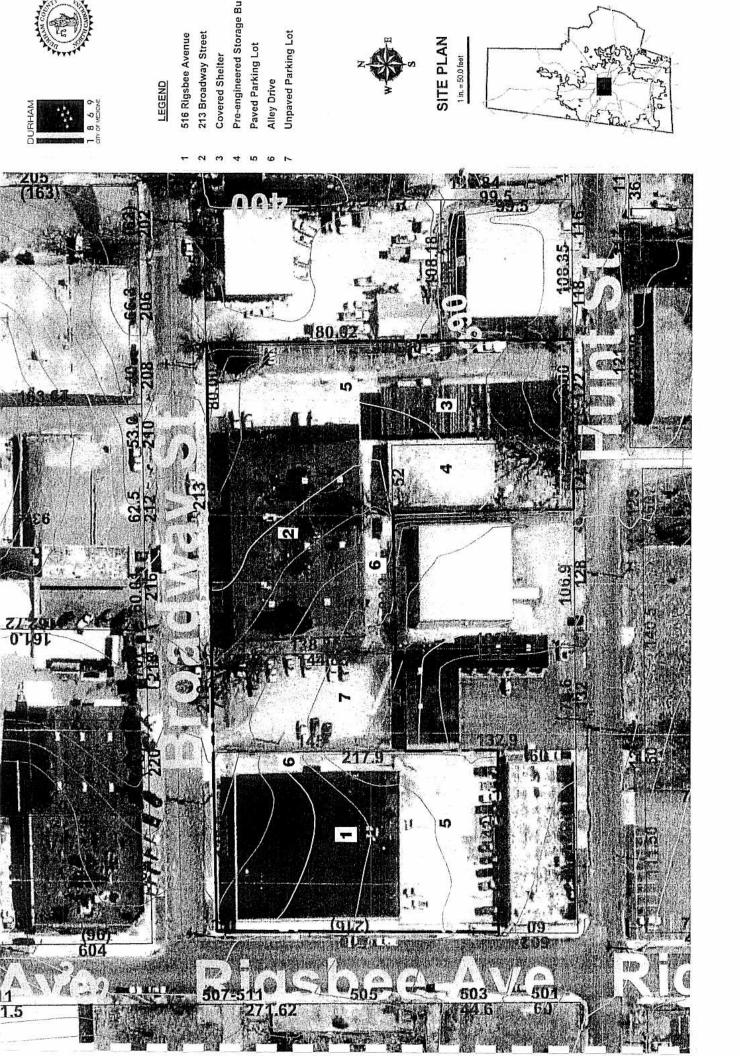
New data/communication outlets and wiring should be provided.

The Owner should consider installing an addressable fire detection system in the space. Smoke detectors should be installed in corridors and storage spaces and pullstations would be installed at all points of egress. ADA compliant horn/strobes will have to be installed to meet the various State Codes.

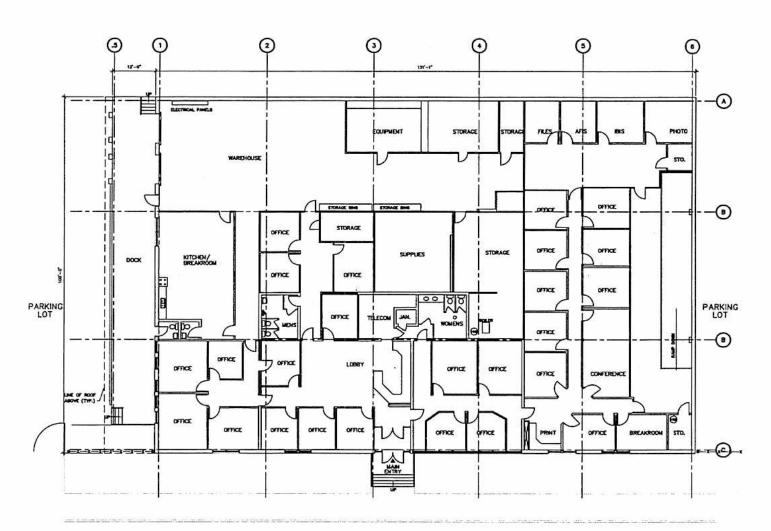
IV. Summary:

- A. Both buildings are in overall fair condition and can be adapted for their proposed uses; however, it appears that extensive civil, architectural, fire protection, HVAC and electrical modifications will be required in order to accommodate the Owner's Program needs. The local code enforcement officials will most likely require the building to be brought up to the current code requirements unless the renovations do not exceed 50% of the value of the building.
- B. All items noted in the body of the report for further investigation should be investigated and all items noted for repair or maintenance should also be done.
- C. The remodeling should address the removal of barriers as required by the Americans with Disabilities Act as much as possible; however, the Owner is responsible for planning for the removal of all barriers. To the maximum extent possible, the altered portions of the building are to be made accessible and if the altered area is an area of primary function of the building, an accessible path of travel must be provided. Alterations required to provide an accessible path of travel to altered areas are considered disproportionate to the overall alteration when the cost exceeds 20% of the alteration to the area of primary function. If providing a fully accessible path of travel is deemed disproportionate, then the priorities are as follows:
 - Accessible entrance.
 - Accessible route to the area of primary function.
 - Accessible bathrooms.
 - Accessible public telephones.
 - Accessible drinking fountains.
 - Additional elements.

V. Existing Drawings:



213 Broadway Street Durham, NC



BROADWAY STREET

